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for the whole thing would rather partake of what the French would term "une *promenade* astronomique."

Even this time, too, might perhaps be shortened, and the result improved, by supplementing the hand-micrometer measures, with photographic pictures of *Mars* and the neighbouring stars, taken in the field of the telescope at intervals through the night on collodion plates, and submitted to screw and microscope measurement on returning to this country.

Royal Observatory, Edinburgh,
June 12, 1862.

Extract of a Letter from M. Winnecke to the Rev. R. Main, dated Pulkowa, 1862, *May* 30.

"I had the pleasure, a few days ago, to send you a short notice, in which a common plan of action is recommended for the observations of the approaching opposition of *Mars*. You, equally with myself, will be impressed with the importance of the questions at issue; and you will, I hope, at the same time, in looking through my proposals, see that they have not been made without mature consideration of the circumstances. I venture therefore to request that you will use your authority to set on foot, as far as possible, for the approaching opposition, a system of co-operation in relation to meridian observations of declination of *Mars*.

"I add here a few short remarks on some Variable Stars, which you will probably find an opportunity to communicate for the *Monthly Notices*.

"In No. 2, vol. xxii., of the *Monthly Notices*, which I received some weeks ago, Mr. Knott draws attention to the variable star R *Vulpeculæ* = Piazzi, xx. 457. The minimum is, according to his estimations, nearly coincident with a predicted maximum. In Pogson's Ephemeris my name is given as the authority for the time of maximum. I did certainly, two years ago, communicate to Mr. Pogson elements of this star; but I was afraid that an error of transcription had crept into them. My elements, which represent seven maxima, observed in the course of three years, with reference to Piazzi's estimations of magnitude, in August 1803, are namely

$$\text{Maximum, 1860, Nov. } 6 + 138^{d}{\cdot}6\, n$$

(n being the number of periods from 1860, Nov. 6);

from which the maxima of 1861 fall on March 25, August 10, and December 27, and those next to be expected should occur on

1862, Sept. 30; 1863, Feb. 18, July 4, Nov. 20.

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"I take this opportunity to communicate the following approximate first elements of some other stars, for which no data are given in Pogson's Ephemeris:—

T *Virginis.* 1860·0, $\alpha = 12^h\ 7^m\ 26^s$; $\delta = -5^\circ\ 15'{\cdot}5$.
Variable from the 8th mag. to less than the 13th.
Maximum, 1862, April 12 + $337^d\ n$.
The next maxima, 1863, March 15; 1864, Feb. 15.

T *Ursæ Majoris.* 1860·0, $\alpha = 12^h\ 30^m\ 1^s$; $\delta = +60^\circ\ 15'{\cdot}5$.
Maximum, 1860, Oct. 31 + $257^d\ n$.
Variable from 6·7 mag. to less than the 13th.
The next maxima, 1862, Dec. 11; 1863, August 25.

R *Camelopardali.* 1860·0, $\alpha = 14^h\ 28^m\ 28^s$; $\delta = +84^\circ\ 27'{\cdot}9$.
Maximum, 1861, August 17 + $265^d\ n$.
Variable from 7th mag. to 13th
The next maxima, 1863, Jan. 29, Oct. 21.

S *Cygni.* 1860·0, $\alpha = 20^h\ 2^m\ 34^s$; $\delta = +57^\circ\ 35'{\cdot}0$.
Maximum, 1861, Dec. 24 + $324^d\ n \pm$.
Variable from 9th mag. to less than 13th.
The next maximum, 1862, middle of November.

S *Cephei.* 1860·0, $\alpha = 21^h\ 36^m\ 54^s$; $\delta = +77^\circ\ 59'{\cdot}6$.
Minimum, 1862, Feb. 1 + $470^d\ n \pm$.
Variable from 8·9 mag. to 11·12.
The next minimum, 1863, May.

"The elements of this last star are little to be relied on, on account of the great difficulty of observing the blood-red variables. It appears, like T *Cancri*, to remain very long at its maximum, and to change its light slowly. For S *Leonis* (as the star at $\alpha = 11^h\ 3^m\ 36^s$, $\delta = +6^\circ\ 13'{\cdot}2$, ought to be called, since a star formerly so called is still not proved to be decidedly variable), the following elements will be somewhat more accurate:—

Maximum, 1860, Dec. 24 + $192^d\ n$.
The next maxima, 1862, July 23; 1863, Jan. 31.

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